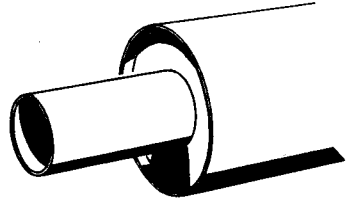




# TUBE ADAPTERS



## TUBE ADAPTERS

TA-1

★ UNLIMITED DESIGN  
POSSIBILITIES!

★ VERSATILE

★ LIGHT



ESTES INDUSTRIES  
PENROSE, COLO. 81240

### Tube Adapters:

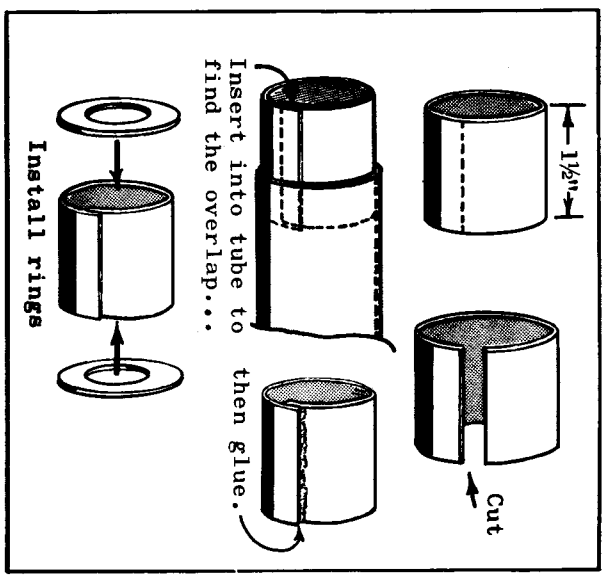
This tube adapter kit is designed to provide neat appearing, lightweight, and easy to assemble transitions from one size body tube to another. The kit consists of two sheets of adapter discs and three universal tapered shrouds. Rings are provided for all the most popular sizes of Estes body tubes.

### Assembly

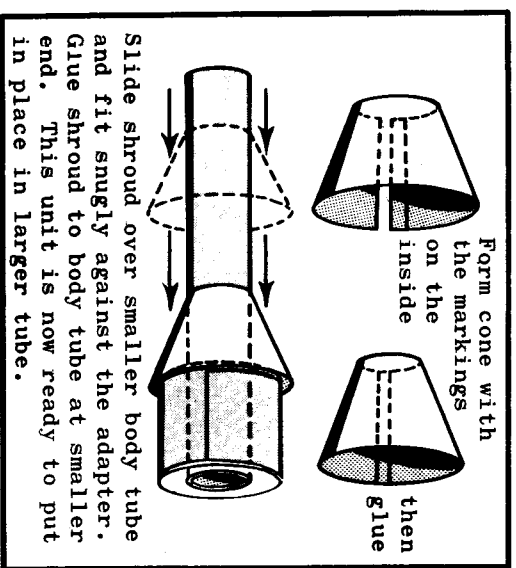
### and Use Instructions

In building rockets with transitions from one size tube to another, it is necessary to design the joint so that it will be strong and rigid. First, select the two rings, one from each sheet, that match the two tube sizes. The rings will fit tightly around the smaller tube and tightly inside the larger tube.

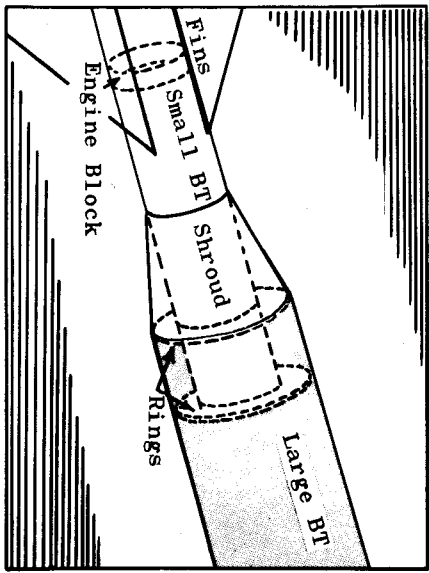
The recommended method for making the joint is to first cut a length of the larger body tube about 1 1/2" long. Sift this piece down one side, and glue it back together with enough overlap so that it fits evenly and smoothly inside the original tube. This may be done most easily by applying the glue and then sliding the piece into a section of the full diameter tube. Remove the piece without disturbing it before the glue sets. (A stage coupler, JT-50 or JT-60, can be used in place of the 1 1/2" length of body tube. It will not be necessary to sift and glue it.)



When this piece is dry, glue a ring to each end of it as in the drawing. Apply glue to the inside edges of the rings and slip the smaller body tube through the rings so it is centered by both. Make a tapered shroud by cutting it out at the lines for the smaller and larger tube sizes. Form it to its proper conical shape, with the markings on the inside. Apply glue to the

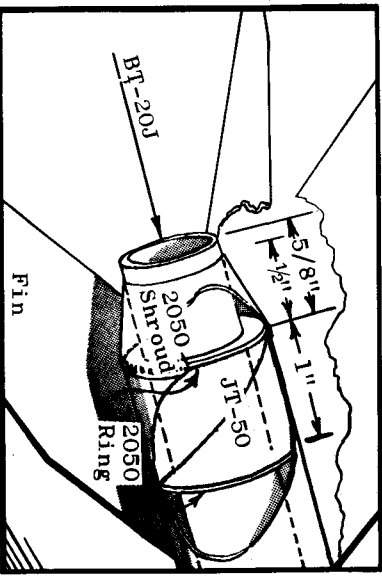


flap, and hold in place, with the joint exactly covering the flap area. When the glue has set, slip the shroud down over the smaller body tube, bring it up tightly against the adapter fitting, and apply glue to the small end only.



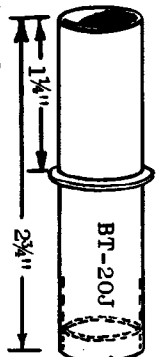
After the shroud has been glued in place, apply glue to the outside of the adapter fitting, and insert it into the larger body tube so that the shroud is tight against the end of the tube. Glue the edge of the shroud to the end of the body tube.

## SUGGESTED APPLICATIONS

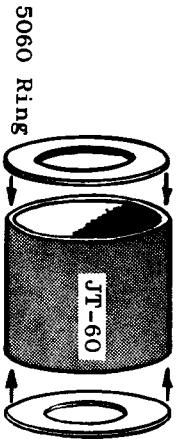


### DUMMY NOZZLE UNIT

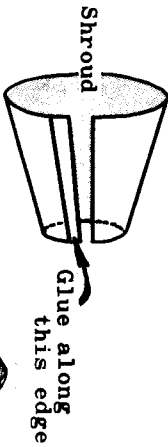
Step 1. 2050 Ring EB-20A



Step 2.

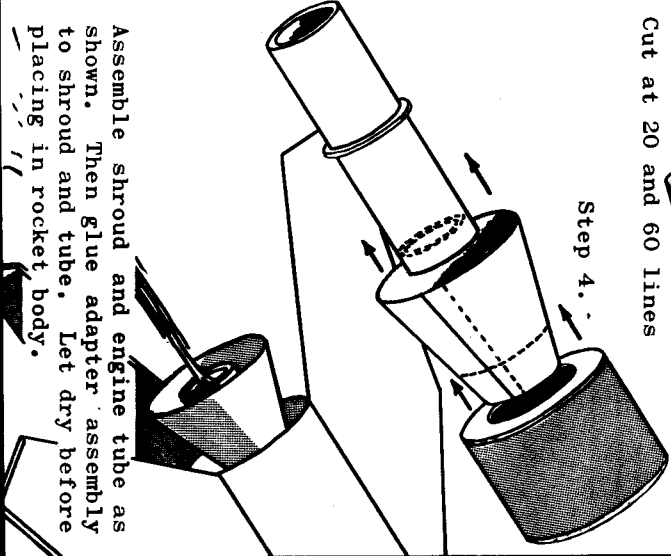


Step 3.



Cut at 20 and 60 lines

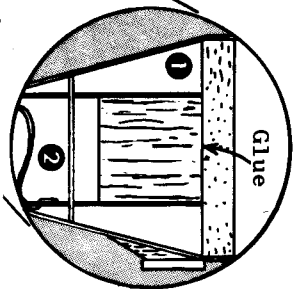
Step 4.



Assemble shroud and engine tube as shown. Then glue adapter assembly to shroud and tube. Let dry before placing in rocket body.

Bonus space available to you by using a 20-60 Shroud ① and 20-50 Spacing Ring ②

Make that space perform a



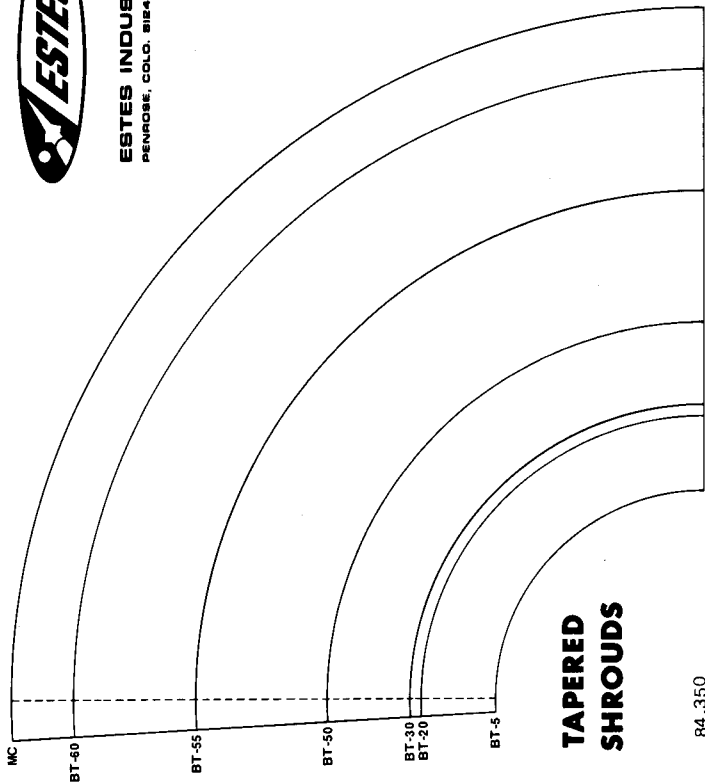
useful function. Here is one example.

#### PARTS LIST

- A PNC-60L Nose cone
- A1 PNCA-60L Nose cone adapter
- B BT-60R Payload section
- C BFS-80 Plug for payload section.
- D SE-2 Screw eye
- E NB-20 Nose block
- F1 1/2" launch lug
- F2 1" launch lug
- G Shock cord
- H1 Payload 'chute
- H2 Main recovery 'chute
- I SV-12 Snap swivel
- J SLT-1 Shroud line
- K BT-20 Body tube
- L RP-1 Wadding
- M Engine block
- N BFS-20 Fin material



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**TAPERED  
SHROUDS**